UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,695	06/27/2006	Howard Elliott	85328-88014	7165

22807 7590 08/09/2007

GREENSFELDER HEMKER & GALE PC
SUITE 2000
10 SOUTH BROADWAY
ST LOUIS, MO 63102

EXAMINER	
NGUYEN, VINCENT Q	
ART UNIT	PAPER NUMBER
2858	

MAIL DATE	DELIVERY MODE
08/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,695	ELLIOTT, HOWARD	
	Examiner	Art Unit	
	Vincent Q. Nguyen	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 7, 8, 10, 14, 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Lawrence et al. (5,760,593) in view of Ko et al. (6,465,271).

With respect to claims 1-4, Lawrence et al. discloses a sensor (1) for capacitively measuring the distance to a stationary or passing object comprising an electrode (4) for capacitively coupling with the object, a shield (8, 10) that surrounds the electrode (1) and is electrically isolated from the electrode (1) by an insulating layer (16), and a housing (2) that substantially surrounds the electrode (1) and the shield (8, 10), wherein the electrode (1) and the shield (8, 10) are formed entirely from an electrically conductive ceramic material (Col. 3 lines 12-16) and the insulating layer (16) and the housing (2) are formed entirely from an electrically non-conductive ceramic material, and in that the electrically conductive and electrically non-conductive ceramic materials are selected to have substantially similar thermal expansion coefficients (Col. 3 lines 25-61). The only difference between Lawrence et al. and the claimed invention is that the claimed invention recites the sensor assembly remains virtually stress free at high operating temperature.

Ko et al. discloses a method of fabricating silicon capacitive sensor and further discloses sensor assembly remains virtually stress free at high operating temperature for the purpose of enhancing the drifting in capacitive sensor (Ko et al.' col. 3 lines 47-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate sensor assembly to remain the virtually stress at high temperature as taught by Ko et al. into the system of Lawrence et al. because matching thermal expansion coefficients of different materials to reduce drift is routine in the art of sensors operation in high temperature.

With respect to claims 5, 10, Lawrence et al. discloses a first electrically conductive bridge connected to the electrode (4) and connectable to the conductor of a transmission cable; and a second electrically conductive bridge connected to the housing (2) and connectable to the conductor of a transmission cable (Col. 5 lines 26-30).

With respect to claims 7, 8, Lawrence discloses the first and the second conductive bridges (16) substantially surrounds the housing (2).

With respect to claims 14, 15, Lawrence discloses the electrode (4), shield (16), insulating layer (14) and housing (2) are bonded together (Figures 2-4).

3. Claims 6, 9, 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawrence et al. (5,760,593) in view of Ko et al. (6,465,271), as applied to claims 1 and 5 above, and further in view of Bailleul et al. (5,973,502).

With respect to claims 6, 11, Lawrence et al. and Ko et al. discloses every subject matter recited in the claim except for explicitly showing the first electrically conductive bridge passes through apertures provided in the housing and the second electrically conductive bridge.

Bailleul et al. discloses a system similar to that of Lawrence et al. and further discloses the first electrically conductive bridge (5) passes through apertures provided in the housing (2) and the second electrically conductive bridge (21a) for the purpose of conveying the signal to the cable (21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the first electrically conductive bridge passes through apertures provided in the housing and the second electrically conductive bridge as taught by Bailleul et al. into the system of Lawrence et al. because have the first electrically conductive bridge passes through apertures provided in the housing and the second electrically conductive bridge is the typical way to convey the detected signal to the analyzing or monitoring circuit.

With respect to claims 9, 12, 13, Lawrence et al. does not explicitly disclose an adaptor.

Bailleul et al. discloses an adaptor (11b) for connecting the second electrically conductive bridge (21a) to the conductor of a transmission cable (21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the adaptor as taught by Bailleul et al. into the system of Lawrence because of the same reason as set forth in claim 6 above.

Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patent No. 5,270,664 (McMurtry et al.) discloses a capacitance sensing probe having electrodes E1, E2 for measuring surface roughness.

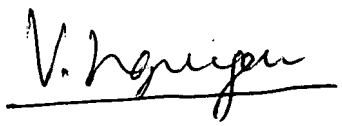
Patent No. 5,101,165 discloses (Figure 2) an electrical capacitance clearanceometer having electrodes (30, 31), for measuring the clearance.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Q. Nguyen whose telephone number is (571) 272-2234. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



August 2, 2007

Vincent Q. Nguyen
Primary Examiner
Art Unit 2858